

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 4 (canceled)

5. (currently amended) A vacuum processing method for transferring a wafer in atmospheric air to a position within a vacuum processing chamber through a vacuum transfer chamber using atmospheric transfer equipment disposed in an atmospheric transfer unit and performing a predetermined treatment to said wafer in said vacuum processing chamber; said method comprising:

an atmospheric transfer step of transferring said wafer in atmospheric air to said vacuum transfer chamber using said atmospheric transfer equipment disposed in atmospheric air;

a vacuum transfer step of transferring said wafer received from said atmospheric transfer equipment to a position for said predetermined treatment within said vacuum processing chamber using vacuum transfer equipment disposed within said vacuum transfer chamber connecting said atmospheric transfer unit and said vacuum processing chamber;

a step of detecting displacement of said wafer in a transverse direction with respect to a traveling direction near an ingress path of said wafer to said vacuum processing chamber by comparing a correct position of said wafer passing a line which is predetermined in advance with an actual position of said wafer being transferred by said vacuum transfer equipment; and

a step of moving a vacuum robot of said vacuum transfer equipment which transfers said wafer in the transverse direction with respect to the traveling direction so as to correct the detected displacement of said wafer;

wherein initial positioning of said wafer is performed in atmospheric air, and the displacement of said wafer in the transverse direction with respect to the traveling direction near the ingress path of said wafer to said vacuum processing chamber is detected directly just prior to the predetermined treatment within said vacuum processing chamber.

6. (currently amended) A vacuum processing method comprising:

an atmospheric transfer step of transferring a wafer in atmospheric air to a vacuum transfer chamber using atmospheric transfer equipment disposed in atmospheric air;

a vacuum transfer step of transferring said wafer received from said atmospheric transfer equipment to a position for a predetermined treatment within a vacuum processing chamber using vacuum transfer equipment disposed within said vacuum transfer chamber connecting said atmospheric transfer equipment and said vacuum processing chamber;

a step of detecting the displacement of said wafer in a transverse direction with respect to a traveling direction near an ingress path of said wafer to said vacuum processing chamber by comparing a correct position of the wafer passing a line which is predetermined in advance with an actual position of said wafer being transferred by said vacuum transfer equipment; and

a step of correcting the displacement of said wafer by moving an arm of said vacuum transfer equipment in the transverse direction with respect to the traveling direction based on the result of detection performed by a wafer position sensor;

wherein initial positioning of said wafer is performed in atmospheric air, and the displacement of said wafer in the transverse direction with respect to the traveling direction near the ingress path of said wafer to said vacuum processing chamber is detected directly just prior to the predetermined treatment within said vacuum processing chamber.

7. (currently amended) A vacuum processing method according to claim 5 or claim 6, wherein

the step of detecting the displacement of said wafer in the transverse direction with respect to the traveling direction near the ingress path of said wafer to said vacuum processing chamber comprises a step of detecting a rim position of said wafer being transferred in the vacuum transfer step using at least three optical sensors.

Claim 8 (canceled)

9. (currently amended) A vacuum processing method according to claim 5 or claim 6, wherein

the displacement of said wafer in the transverse direction with respect to the traveling direction near the ingress path of said wafer to said vacuum processing chamber is detected within said vacuum transfer chamber at a position proximate to

an inlet of said vacuum processing chamber which effects the predetermined treatment of said wafer.